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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit 2152
Examiner W. Vaughn, Jr.

In Re:	Dan Kikinis
Case:	P1523CIP
Serial No.:	08/811,648
Filed:	March 5, 1997
Subject:	Apparatus and Methods for Home Networking

To the Commissioner of Patent and Trademarks
Washington, D.C. 20231

Dear Sir:

DECLARATION UNDER 37 C.F.R. SECTION 1.132

I, Richard Belgard, hereby declare as follows:

1. I have been a computer engineer with expertise in computer systems since 1974. I received a Bachelor of Arts degree in Computer Science from the State University of New York at Buffalo in 1973, and a Master of Science degree in Computer Science and Electrical Engineering from S.U.N.Y./ Buffalo in 1974. I attended the University of Utah and completed all course work required for a Ph.D. in Computer Science.

2. Since 1974, I have been professionally engaged in the computer field, particularly in hardware and computer systems. I have a detailed understanding of how various networks work, including local area networks.

3. I have held the following positions in my career:

a. I was a Senior Automatic Programmer at Burroughs Corporation, Santa Barbara, CA, where I was responsible for the design and implementation of firmware emulators for two second-generation computers on a third generation computer from 1974-75;

b. Simultaneous with my work at Burroughs, I was a lecturer at the University of California, Santa Barbara, where I taught a graduate course in computer architecture;

c. I was a Principal Engineer at Data General Corporation from 1977-80, where I was on a team responsible for the design of a next-generation minicomputer;

d. From 1980-82, I was a Member of Software Research at Tandem Computers, where I was responsible for the design and architecture of a fault-tolerant computer system;

e. In 1982, I helped form Rational Corporation, now part of IBM, to design and built a super-minicomputer system;

f. In 1985, I left Rational to become an independent consultant, which is what I have done since then. During this period, among other things, I have helped NEC Corporation, in Kawasaki, Japan, redesign its V20/V30/V40 and V50 microprocessors, and have worked with Transmeta Corporation, VIA Corporation and other companies to develop microprocessors and computer system components. I have also

worked with, among others, Dell Computer, Packard-Bell, and EMachines on issues related to PC design.

4. I have been a member of the Association for Computing Machinery (ACM) since 1974. I am a Fellow of the Institute of Electrical and Electronic Engineers (IEEE). I am a co-inventor on 18 U.S. Patents, and sole inventor on 4 U.S. Patents. I currently have applications pending in the PTO.

5. I have testified as an expert in computer-related patent cases in the U.S., Germany and the U.K. I have also served as an expert for the court in a patent case in the U.S.

6. In addition to my other consulting activities, I am a contributing editor for The Microprocessor Report, and I additionally write the continuing column *PatentWatch* for that publication.

7. Patent Practitioner Donald R. Boys, Reg. No. 35074, the agent of record in the above-identified case, has brought to my attention to claim language involved in the case, and also to a reference: US Patent 5,844,596 issued to inventor David D. Goodman, and apparently assigned to Inline Connection Corporation.

8. Mr. Boys has focused my attention on the specific language of claim 1 of the above-identified case as follows:

1. A networking system for a home or business site, comprising:

a bridge adapter unit having an inlet port for receiving public network protocol signals; and

a telephone wiring structure in the site, the wiring structure having multiple end points and one or more junctions, and connected at a single point to an outlet port of the bridge adapter unit;

characterized in that the bridge adapter unit drives the telephone wiring structure according to a Local Area Network (LAN) protocol, translates the public network protocol signals to the LAN protocol, and modulates the signals in a manner to correct signal variations at the end points due to having multiple end points driven from a single point at the bridge adapter unit.

9. I have read the pending application, and reviewed claim 1. After reading claim 1 and reviewing the drawings and disclosure in the case, particularly Fig. 3, it is clear to me that the bridge adapter unit in claim 1 is element 301, and that the telephone wiring structure comprises connected elements 302a, b, c, d. The functional statement in the claim beginning with "...characterized in that..." indicates certain things that the bridge adapter unit 301 does. Specifically it does three things: (a) it "...drives the wiring structure 302 according to a Local Area Network (LAN) protocol"; it (b) "...translates the public network protocol signals (received by the bridge adapter unit) into the LAN protocol"; and it (c) "...modulates the signals in a manner to correct signal variations at the end points...".

10. Mr. Boys has further focused my attention to the principal issue to which he wishes me to testify, that is to whether, in my professional opinion, the reference Goodman in fact teaches the two physical elements of the invention, namely, the bridge adapter unit for receiving public network protocol signals, and the existing wiring structure to which it is connected; and the three functional limitations, these being that the bridge adapter unit (a) "...drives the wiring structure 302 according to a Local

Area Network (LAN) protocol"; it (b) "...translates the public network protocol signals (received by the bridge adapter unit) into the LAN protocol"; and it (c) "...modulates the signals in a manner to correct signal variations at the end points...".

11. It seems that there are thus five specific limitations that Goodman must teach to read on and anticipate claim 1. For the sake of clarity I wish to re-list these five limitations in order:

1. Bridge adapter unit connected to public network
2. Telephone wiring structure connected to bridge adapter unit
3. Bridge adapter drives wiring structure according to a LAN protocol
4. Bridge adapter unit translates received public network protocol signals into the LAN protocol
5. Bridge adapter unit modulates the signals on the telephone wiring structure in a manner to correct signal variations at the end points.

12. In my review and analysis I have paid particular attention to all portions of Goodman that describe in any way a Local Area Network (LAN), and LAN signals, such as Ethernet protocol signals.

13. The first mention of Ethernet signals, or any other LAN protocol signal in Goodman, is in the paragraph in column 38 of the published patent, beginning at line 38 and continuing through line 46. This paragraph is reproduced below:

"Referring also to FIG. 8, demodulators 426 react in the following manner. In response to signals fed from master controller 415 over link

446a, demodulator 426a selects and basebands the signal between 176 Mhz and 182 Mhz (video signal U). Similarly, demodulator 426b selects and basebands the 6 Mhz AM signal between 188-194 Mhz (video signal V), and demodulator 426c selects the signal between 200-212 Mhz, which is a digital signal conforming to the "10BaseT Ethernet" standard (digital signal Y), and converts it to a demodulated signal at baseband. Thus, two ordinary NTSC video signals are selected from line 402, basebanded, and provided to switch 462a along two separate conductive paths. A third conductive path provides a 12 Mhz wide computer signal."

14. This paragraph describes functions of demodulators 426a through 426c which are not shown in Fig. 8 of Goodman, but are shown in the Goodman architecture in Figs. 5a and 5b. Referring to the earlier figures of Goodman, it is clear that the demodulators 426n are a part of the overall circuitry of transceiver switch 400 (see Figs. 1a, 1b and 2 of Goodman). I have been informed by Mr. Boys that this element of Goodman is evidently the element the Examiner relates to applicant's bridge adapter unit of claim 1.

15. Arguably, then, if the function of the demodulators, or other circuitry in switch 400, is to receive public network protocol signals (other than Ethernet or other LAN protocol signals), and then convert them to Ethernet or other LAN protocol signals, an important functional limitation of claim 1 would be met.

16. Of critical importance here is whether the signal received is a public network protocol signal, as claimed in the pending case, is not a LAN protocol signal, and is then converted to a LAN signal, such as an Ethernet signal. Only if this were true would the teaching read on the claimed limitation.

17. Referring now to the selected paragraph of Goodman above, attention is directed to the language: "*...and demodulator 426c selects the signal between 200-212 Mhz, which is (underlining added) a digital signal conforming to the "10BaseT Ethernet" standard (digital signal Y), and converts it to a demodulated signal at baseband.*

18. It is quite clear that, in the case of Goodman, the signal received at demodulator 426c is in fact already an Ethernet signal, which is converted by 426c to a demodulated signal at baseband. It is true a signal is received, and *conversion* is accomplished. But the signal received is not a public network protocol signal, and the conversion is not from a non-LAN protocol signal into a LAN protocol. It seems that Goodman receives Ethernet signals at the bridge adapter unit and passes them onto the local network with some frequency conversion or basebanding. This is not the conversion that is claimed, and therefore this passage does not read on the functional limitations of claim 1.

19. The next instance of LAN protocol signals in Goodman is the description including Ethernet in the paragraph beginning in column 39, from lines 27 through 47. This paragraph is also reproduced below for clarity.

"After this conversion, local network interfaces 404 amplify the signals and retransmit them onto the respective local networks 411. Once applied to local networks 411, signals U, V, and Y are received by video receivers 419 and transceiver 491c. Video receivers 419 convert signals V and U to tunable frequencies before transmitting them to connected televisions 492, and transceiver 491c converts its signal to a form appropriate for computer 495c. Video receivers 419a and 419a', in

particular, apply a single upshift of 186 Mhz to energy between the frequencies of 12 Mhz and 30 Mhz, converting signals U and V to video signals with picture carriers at 199.25 and 211.25 Mhz, (i.e. VHF channels 11 and 13), respectively. A design for a video receiver that performs such a block conversion is given in the second CIP application, and a design for transceiver 491c is given in the first CIP application. These conversions allow users at local networks 411a and 411b to watch video signal V, those at local network 411a can also watch video signal U, and computer 495c at local network 411c can receive digital signal Y, which is an "EtherNet" signal from communication line 402 (underline added)."

20. This paragraph describes conversions that are made at video converters 419n and transceiver 491c in Goodman's architecture, which are seen in Goodman's Fig. 1a. Of particular interest is transceiver 491c serving computer 495c. In the paragraph above it is stated that *"...computer 495c at local network 411c can receive digital signal Y, which is an 'EtherNet' signal from communication line 402."* Very interestingly, communication line 402 (see Fig. 2 of Goodman, is an incoming line to the bridge unit, which emphasizes and supports the previous conclusion that Goodman is not converting non-LAN protocol signals to LAN protocol, but is, in some cases, receiving LAN protocol signals, and passing these signals onto the local network to be used by computers connected to the local network.

21. The third instance of LAN protocol signals in Goodman is in the claims, specifically claim 39, which depends from claim 34, which is in turn a dependent claim from independent claim 21. These three claims from Goodman are reproduced below:

(21). A system for communicating information between an external source of information and a plurality of destinations of information over a telephone wiring network used for passing telephone signals in a telephone voice band between a plurality of telephone devices and a telephone exchange, comprising:

a plurality of transceivers coupled between the telephone wiring network and corresponding destinations of information, each including

circuitry for accepting signals in a high frequency band of frequencies above the highest frequency of the telephone voice band and rejecting signals in the telephone voice band; and

a signal interface coupled between the external source of information and the telephone wiring network, including

circuitry for receiving a plurality of external signals encoding a plurality of information streams from the external source of information,

circuitry for selecting a subset of zero or more transceivers for receipt of each of the information streams from the external source of information, and

circuitry for transmitting over the telephone wiring network to each transceiver in each selected subset of transceivers an internal signal in the high frequency band encoding an information stream corresponding to that subset of transceivers.

(34). The system of claim 21 wherein the plurality of external signals includes an external data signal encoding a data stream and the plurality of internal signals includes a corresponding internal data signal encoding the data stream.

(39.) The system of claim 34 wherein the internal data signal is an encoding of the data stream as a 10-Base-T Ethernet signal.

22. The independent claim 21 clearly recites a plurality of external signals, and an internal signal. Claim 34 adds a limitation that the plurality of external signals includes an external data signal encoding a data stream, and the plurality of internal signals includes a corresponding internal data signal encoding the data stream. This is a bit confusing as there is no antecedent basis in claim 21 for the "plurality of internal signals". Claim 21 recites "an internal signal". Nevertheless, this seems to teach that there may be an internal data signal encoding a data stream from an external data signal.

23. Finally, claim 39 recites that the internal data signal of claim 34 as "*the internal data signal is an encoding of the data stream as a 10-Base-T Ethernet signal.*" The teaching in the claim language says that the internal data signal is encoded as 10-Base-T Ethernet signal, it specifically does not recite where the encoding as a 10-Base-T Ethernet signal takes place, while applicant's claim 1 specifically recites the bridge unit does the encoding as a LAN protocol signal. The claim language in Goodman also does not say that the external signal is specifically not a LAN protocol signal, as is claimed in applicant's claim 1.

24. Clearly the Goodman claim language is supported by the teaching in Goodman discussed above, specifically relative to Ethernet signaling, and also clearly, those portions of Goodman describe that Ethernet signals may be received at the Goodman bridge, and passed onto the internal networks, so computers may be operated on the internal networks.

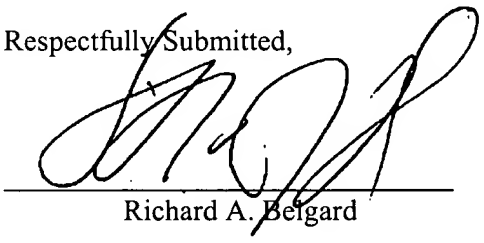
25. However, this still does not teach the specific limitations of applicant's claim 1, that applicant's bridge unit receives public network protocol signals and converts them to Local Area Network protocol signals, and drives the entire internal network as a LAN according to a

LAN protocol.

26. After my thorough review, I have concluded that there are essential features recited in claim 1, as I understand it, standing in the case that are not taught in the reference Goodman, and therefore I am of the opinion that the Goodman reference **does not** anticipate all the limitations of claim 1 in the above-identified case.

27. I further declare that the above statements are made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

Respectfully Submitted,



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